AMENDMENTS TO THE CLAIMS

1. (Currently amended) A transmission system comprising a plurality of gear ratios, a selector assembly for selectively engaging the gear ratios, and a control system arranged to measure the amount of deformation in at least one static component or assembly that is deformed due to torque in the transmission system and to adjust the torque in the transmission according to the measured deformation and a known relationship between the gear ratios, wherein the transmission system is arranged such that selection of a new gear ratio occurs almost instantaneously without substantial power interruption.

2. (Previously presented) A transmission system according to claim 1, wherein the known relationship is substantially linear and values corresponding to the measured deformation are adjusted by a scaling factor.

3. (Previously presented) A transmission system according to claim 1, wherein the control system is arranged to control a rate of change of torque in the transmission system in accordance with the deformation measured.

4. (Previously presented) A transmission system according to claim 1, further including a clutch device, wherein the control system is arranged to control operation of the clutch device to control transmission of torque to the transmission system.

5. (Previously presented) A transmission system according to claim 1, wherein the control system is arranged to control a drive source operating speed.

6. (Previously presented) A transmission system according to claim 1, wherein the control system is arranged to calculate a magnitude of torque in the transmission system.

7. (Previously presented) A transmission system according to claim 1, wherein the control system is arranged to estimate a magnitude of torque in the transmission system when the selector device engages an unengaged gear ratio.

8. (Previously presented) A transmission system according to claim 1, including a sensor system

for sensing operational positions of the selector device.

9. (Previously presented) A transmission system according to claim 1, wherein the control system is arranged to identify fluctuations in the deformation measurements due to factors other than drive line torque.

10. (Previously presented) A transmission system according to claim 9, wherein the control system is arranged to record a plurality of measurements and calculate a difference between the measurements, and to control the torque to account for fluctuations in the deformation measurements.

11. (Previously presented) A transmission system according to claim 1, wherein the control system is arranged to measure engine speed and/or road speed, or includes a vehicle-mounted accelerometer.

12. (Previously presented) A transmission system according to claim 1, wherein the control system is arranged to measure the amount of torsional deformation in the component or assembly.

13. (Previously presented) A transmission system according to claim 1, wherein the control system is arranged to determine in which direction the torque in the transmission is acting.

14. (Previously presented) A transmission system according to claim 1, wherein the static component or assembly comprises at least one of a transmission bearing, casing, support member, mounting, or mounting bolts.

15. (Previously presented) A transmission system according to claim 1, wherein the control system includes at least one load cell.

16. (Previously presented) A transmission system according to claim 1, wherein the control system includes a measuring device mounted on a casing having a longitudinal axis, wherein the casing is arranged such that torque in the transmission system twistingly deforms the casing about the longitudinal axis, wherein the measuring device is arranged to measure the twisting

deformation.

17. (Previously presented) A transmission system according to claim 1, wherein the control system measures strain in the component or assembly.

18. (Previously presented) A transmission system according to claim 1, wherein the control system includes at least one strain gauge arranged to measure deformation in the static component or assembly.

19. (Canceled)

20. (Canceled)

21. (Canceled)

22. (Canceled)

23.(Previously presented) A method for changing gear ratios in a transmission system having first and second rotatable shafts, first and second gear ratios for transferring drive between the first and second shafts, a selector assembly for selecting between the first and second gear ratios, a control system arranged to measure deformation in at least one static component or assembly arranged to support or house rotatable components of the transmission system that is deformed due to torque in the transmission system, wherein the first gear ratio includes a first gear wheel rotatably mounted on the first shaft, the second gear ratio includes a second gear wheel rotatably mounted on the first shaft and the first and second gear wheels each have drive formations formed thereon, the selector assembly is arranged to selectively transmit torque between the first shaft and the first gear wheel and between the first shaft and the second gear wheel, and includes an actuator assembly and first and second sets of engagement members that are moveable into and out of engagement with the first and second gear wheels independently of each other, said selector assembly being arranged such that when a driving force is transmitted, one of the first and second sets of engagement members drivingly engages an engaged gear wheel, and the other set of engagement members is then in an unloaded condition, wherein the actuator assembly is

arranged to move the unloaded set of engagement members to effect a gear change, said method comprising:

measuring the deformation caused by torque in the at least one static component or assembly;

selecting an unengaged gear ratio; and

adjusting the torque in the transmission system according to the measured deformation and a known relationship between the gear ratios.

24. (Previously presented) The method according to claim 23, wherein the known relationship is substantially linear and values corresponding to the measured defamation are adjusted by a scaling factor.

25.(Previously presented) The method according to claim 23, further comprising controlling a rate of change of torque in the transmission system according to the deformation measured.

26. (Previously presented) The method according to claim 23, wherein adjusting the torque in the transmission system in accordance with the measured deformation and a known relationship between the gear ratios includes adjusting an output of a drive source.

27. (Previously presented) The method according to claim 23, further comprising calculating a magnitude of the torque in the transmission system.

28. (Previously presented) The method according to claim 23, further comprising estimating an amount of torque that will be in the transmission system in the operating condition of the unengaged gear ratio being engaged.

29. (Previously presented) The method according to claim 23, wherein measuring deformation in the component or assembly comprises measuring an amount of torsional deformation in the component or assembly.

30. (Previously presented) The method according to claim 23, wherein measuring deformation in the component or assembly determines a direction of torque in the transmission system.

31. (Previously presented) The method according to claim 23, wherein the component or assembly comprises at least one of a transmission bearing, casing, support member, mounting or mounting bolts.

32.(Previously presented A method according to claim 23, including selecting the unengaged gear ratio with the unloaded set of engagement members while the loaded set of engagement members is in engagement with the engaged gear ratio.

33.(Previously presented) A transmission system according to claim 1, including first and second rotatable shafts, wherein the plurality of gear ratios is arranged to transfer drive between the first and second shafts and includes first and second gear wheels each rotatably mounted on the first shaft and having drive formations formed thereon, the selector assembly is arranged to selectively transmit torque between the first shaft and the first gear wheel and between the first shaft and the second gear wheel, wherein the selector assembly includes an actuator assembly and first and second sets of engagement members that are moveable into and out of engagement with the first and second gear wheels independently of each other, said selector assembly being arranged such that when a driving force is transmitted, one of the first and second sets of engagement members drivingly engages an engaged gear wheel, and the other set of engagement members is then in an unloaded condition, wherein the actuator assembly is arranged to move the unloaded set of engagement members to effect a gear change.

34.(Previously presented) The transmission system as claimed in claim 33, wherein the selector assembly is arranged such that when a braking force is transmitted the first set of engagement members drivingly engages the engaged gear wheel, and the second set of engagement members is in an unloaded condition, and when a driving force is transmitted the second set of engagement members drivingly engages the engaged gear wheel, and the first set of engagement members is then in an unloaded condition.

35.(Previously presented) The transmission system as claimed in claim 33, wherein the actuator

assembly is arranged to bias the loaded set of engagement members towards an unengaged gear wheel without disengaging the loaded set of engagement members from the engaged gear wheel.

36.(Previously presented) A transmission system according to claim 1, wherein the control system includes a plurality of load cells that are arranged to measure deformation in the static component or assembly.

37.(Previously presented) A transmission system having a plurality of gear ratios, a selector assembly for selectively engaging the gear ratios, and a control system arranged to measure deformation in at least one static component or assembly that is deformed due to torque in the transmission system and to adjust the torque in the transmission system according to the measured deformation and a known relationship between the gear ratios, wherein the known relationship is substantially linear and values corresponding to the measured deformation are adjusted by a scaling factor.

38.(Previously presented) A transmission system according to claim 37, wherein the transmission system is arranged such that selection of a new gear ratio takes place substantially instantaneously without substantial power interruption.

39.(Previously presented) transmission system having including first and second rotatable shafts, first and second gear ratios for transferring drive between the first and second shafts, a selector assembly for selecting between the first and second gear ratios, a control system arranged to measure deformation in at least one static component or assembly arranged to support or house rotatable components of the transmission system that is deformed due to torque in the transmission system, and wherein the first gear ratio includes a first gear wheel rotatably mounted on the first shaft, the second gear ratio includes a second gear wheel rotatably mounted on the first shaft and the first and second gear wheels each have drive formations formed thereon, the selector assembly is arranged to selectively transmit torque between the first shaft and the first gear wheel and between the first shaft and the second gear wheel, and includes an actuator assembly and first and second sets of engagement members that are moveable into and out of engagement with the first and second gear wheels independently of each other, said selector assembly being arranged such that when a driving force is transmitted, one of the first and second

sets of engagement members drivingly engages the engaged gear wheel, and the other set of engagement members is then in an unloaded condition, wherein the actuator assembly is arranged to move the unloaded set of engagement members to effect a gear change and the control system is arranged to adjust the torque in the transmission system according to the measured deformation and a known relationship between the gear ratios.

40. (Previously presented) A transmission system according to claim 39, wherein the known relationship is substantially linear and values corresponding to the measured deformation are adjusted by a scaling factor.

41.(Previously presented) A transmission system according to claim 39, wherein the selector assembly is arranged to engage an unengaged gear wheel with the unloaded set of engagement members while the loaded set of engagement members is in engagement with the engaged gear wheel.